PUBLIC NOTICE

US Army Corps of Engineers
New York District
Jacob K. Javits Federal Building
New York, N.Y. 10278-0090
ATTN: Regulatory Branch

In replying refer to:
Public Notice Number: 2002-00711-OD
Issue Date: 2 August 2002
Expiration Date: 3 September 2002

To Whom It May Concern:

The New York District, US Army Corps of Engineers has received an application for Department of the Army authorization pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403), Section 404 of the Clean Water Act (33 USC 1344), and Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended (MPRSA; 33 USC 1413).

APPLICANT: Port Authority of New York and New Jersey
2 Gateway Center
14th Floor, SW
Newark, New Jersey 07102

ACTIVITY: Perform maintenance and new work dredging with placement of the dredged material at a state-approved upland facility and the Historic Area Remediation Site (HARS).

WATERWAY: Newark Bay

LOCATION: Port Newark/Port Elizabeth, Cities of Newark, and Elizabeth, Union and Essex Counties, New Jersey

A detailed description and plans of the applicant's activity are enclosed to assist in your review.

The US Army Corps of Engineers (USACE) neither favors nor opposes the proposed work. The purpose of this public notice is to solicit comments from the public; federal, state, and local agencies and officials; Indian Tribes; and other interested parties in order for USACE to acquire information which will be considered in our evaluation of the impacts of this proposed activity. Any comments received will be considered by the USACE to determine whether to issue, condition, or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed below. Comments are used in the preparation of an Environmental Assessment and/or an

Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity.

The decision whether to issue a permit will be based on an evaluation of the probable impact, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the proposal will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, floodplain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, consideration of property ownership and, in general the needs and welfare of the people. This activity is also being evaluated to determine that the proposed placement of dredged material will not unreasonably degrade or endanger human health, welfare or amenities, the marine environment, ecological systems or economic potentialities. The decision of whether to issue a Department of the Army Permit for placement of the dredged material at the HARS will also be based on whether the material meets the requirements of applicable implementing regulations.

ALL COMMENTS REGARDING THE PERMIT APPLICATION MUST BE PREPARED IN WRITING AND MAILED TO REACH THIS OFFICE BEFORE THE EXPIRATION DATE OF THIS NOTICE. Otherwise, it will be presumed that there are no objections to the activity.

Any person may request, in writing, before this public notice expires, that a public hearing be held to collect information necessary to consider this application. Requests for public hearings shall state, with particularity, the reasons why a public hearing should be held. It should be noted that information submitted by mail is considered just as carefully in the permit decision process and bears the same weight as that furnished at a public hearing.

The proposed project was reviewed based upon the "Biological Assessment for the Closure of the Mud Dump Site and Designation of the Historic Area Remediation Site (HARS) in the New York Bight and Apex," (USEPA, 1997). Based upon this review, and a review of the latest public listing of threatened and endangered species, it has been preliminarily determined that the proposed placement activities for which authorization is sought herein, are not likely to affect the following federally threatened or endangered species (humpback whales, finback whales, right whales, loggerhead turtles, leatherback turtles, green turtles, and Kemp's Ridley turtles) or their critical habitat pursuant to Section 7 of the Endangered Species Act (ESA; 16 USC 1531). The USACE New York District is conducting informal consultations with the National Marine Fisheries Service in accordance with Section 7 of the Endangered Species Act.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded, or undertaken by the agency, that may adversely affect Essential Fish Habitat (EFH). Information on conditions at the project site and on the proposed work that would be undertaken is given in the attached Work Description. A preliminary review of the proposal and information submitted by the applicant indicates that EFH-managed species do not heavily utilize the area and that ecological conditions favored by many of the species are not found at the dredge site. The primary effects on EFH (and EFH-managed species) would be a temporary increase in turbidity due to dredging activities and disruption of demersal and pelagic habitat. The impacts of the initial dredging would be short-lived episodes which are expected to last a total of approximately ten to twelve weeks. Upland disposal would not have any effect on EFH and placement of material at the HARS would have an overall beneficial effect. Impacts to EFH species at the HARS would most likely emanate from the settling of the dredged material through the water column to the bottom. These events would also be short-lived and be episodic in nature over the projected eight to ten weeks for the proposed placement at the HARS and the approximately two weeks for disposal at the state-approved upland site for the initial dredging. The duration of subsequent maintenance dredging is not known at this time. The overall potential impact for all the work proposed herein on EFH for designated species is small because of the temporary nature of the disturbance, the existing and proposed depths are too deep for EFH managed species, the low abundance of most species for which this region is designated as EFH, and the constant movement of cargo vessels in and out of the berthing areas. Therefore, based on the foregoing, the District Engineer has made the preliminary determination that the site-specific adverse effects are not likely to be substantial. Further consultation with NMFS regarding EFH impacts and conservation recommendations is being conducted and will be concluded prior to the final decision.

Of the wrecks known to occur within the HARS, only two wrecks which are located within Remediation Area Number 1 are eligible for inclusion in the National Register of Historic Places. As noted in the designation of the HARS, Remediation Material would not be allowed to be placed within 0.27 nautical miles of the identified wrecks or other wrecks that might be found.

Reviews of the activity pursuant to Section 404 of the Clean Water Act will include application of the guidelines announced by the Administrator, US Environmental Protection Agency, under authority of Section 404(b) of the Clean Water Act. The applicant will obtain a water quality certificate or waiver from the appropriate state agency in accordance with Section 401 of the Clean Water Act prior to any final permit decision.

Pursuant to Section 307(c) of the Coastal Zone Management Act of 1972 as amended [16 USC 1456(c)], for activities under consideration that are located within the coastal zone of a state which has a federally approved coastal zone management program, the burden is on the applicant to certify in the permit application that the proposed activity complies with, and will be conducted in a manner that is consistent with, the approved state coastal zone

management program. By this public notice, we are requesting the state's concurrence with, objection to, or waiver of the applicant's certification. No permit decision will be made until one of these actions occur. For activities within the coastal zone of New Jersey the applicant's certification and accompanying information is available from the New Jersey Department of Environmental Protection, Bureau of Coastal Regulation, CN 401, 501 East State Street, Second Floor, Trenton, New Jersey 08625-0401, Telephone Number (609) 633-2289. Comments regarding the applicant's certification should be so addressed.

In addition to any required water quality certificate and coastal zone management program concurrence, the applicant has obtained or requested the following governmental authorization for the proposed activity under consideration:

New Jersey Department of Environmental Protection

- Waterfront Development Permit
- Acceptable Use Determination

It is requested that you communicate the foregoing information concerning this activity to any persons known by you to be interested and who did not receive a copy of this notice.

If you have any questions concerning this application, you may contact this office at (212) 264-0184 and ask for Mr. Mark Roth. Comments or questions may be FAXED to (212) 264-4260 ATTN: Mr. Roth. Questions about the HARS can be addressed to Mr. Douglas Pabst, Team Leader, Dredged Material Management Team, US Environmental Protection Agency, Region 2 at (212) 637-3797.

For more information on the New York District USACE programs, visit our website at http://www.nan.usace.army.mil

Richard L. Tomer

Richard L. Tomer
Acting Chief, Regulatory Branch

Enclosures

DESCRIPTION OF THE PROPOSED WORK:

The Port Authority of New York & New Jersey (PANY&NJ), has requested Department of the Army authorization to undertake maintenance dredging of berthing areas within the Port Newark/Elizabeth Terminal facility as well as new work dredging in specific berths of the same facility. The Port Newark/Elizabeth Marine Terminal is located on Newark Bay in the Cities of Newark and Elizabeth, Union and Essex Counties, New Jersey.

In Berths 2 through 64, 66, 76, 78, 80, 96, and 98, maintenance dredging would occur down to presently authorized depths (as shown on the attached drawings), which range from 32 to 50 feet below the plane of Mean Low Water plus a maximum of two feet of allowable overdepth. The purpose of the maintenance dredging in these berths is to reestablish adequate depths of water for safe navigation. The total approximate amount of maintenance material that would be removed from all berths is approximately 351,100 cubic yards. This material would be taken to the OENJ Cherokee site in Bayonne, New Jersey and/or another state-approved upland site. As a contingency, if no upland beneficial use site is available, the applicant proposes to place this material at the Newark Bay Confined Disposal Facility (in accordance with all applicable rules regulating its use). After the barges are loaded, they would be temporarily moored within the dredge site and the dredged material allowed to settle. After settling, excess water would be pumped into a second barge. The first barge with the dredged material in it, would be towed to the state-approved upland site for disposal. The water in the second barge would be allowed to settle for approximately 24 hours, and at that time, the excess water would be discharged (decanted) back into the waterway, while still within the dredge site.

In Berths 68, 70, 72, and 74 the proposed new authorized depth would be approximately 50 feet below the plane of Mean Low Water plus a maximum of two feet of allowable overdepth, while in Berths 82, 84, 86, 88, 90, 92, and 94 the proposed new authorized depth would be approximately 45 feet below the plane of Mean Low Water plus a maximum of two feet of allowable overdepth. The completion of the new work dredging in Berths 68, 70, 72, 74, 82, 84, 86, 88, 90, 92, and 94 would allow berth tenants with deep draft ships to load and offload at these berths as long as they arrive and depart at times of high tide. For tenants in Berths 82, 84, 86, 88, 90, 92, and 94, the completion of the new work dredging would allow the berthing of ships with drafts consistent with the 45 foot depth in the recently deepened adjacent federal channel.

The sediments occurring in Berths 68 through 74 and 82 through 94 have been subdivided into an upper, black silt that extends from the mud-water interface down to between approximately 42 and 47 feet below the plane of Mean Low Water, and a lower, red-brown clay layer, occurring between approximately 42 and 47 feet below the plane of Mean Low Water ranging down to below the proposed project depths. The upper sediment volume is included in the overall amount of maintenance material mentioned above.

Approximately 254,160 cubic yards of Pleistocene red-brown clay would be dredged from the project area and placed at the HARS for remediation purposes, which is located in the Atlantic Ocean off of Sandy Hook, New Jersey. The proposed dredged material would be transported by bottom-opening barges to the placement site.

All dredging of the uppermost maintenance material in the project area of approximately 240 acres of bottom would be performed using a closed clamshell bucket without barge overflow, while the denser underlying Pleistocene red-brown clay would be dredged using a heavy clamshell or backhoe bucket. Barge overflow is proposed to maximize barge loading of the Pleistocene red-brown clay.

INTRODUCTION TO THE HARS:

In 1972, the Congress of the United States enacted the MPRSA to address and control the dumping of materials into ocean waters. Title I of the Act authorized the US Environmental Protection Agency (USEPA) and the USACE to regulate dumping in ocean waters. USEPA and USACE share responsibility for MPRSA permitting and ocean disposal site management. Regulations implementing MPRSA can be found at 40 CFR Sections 220 through 229. With few exceptions, MPRSA prohibits the transportation of material from the United States for the purpose of ocean dumping except as may be authorized by a permit issued under the MPRSA. The MPRSA divides permitting responsibility between the USEPA and USACE. Under Section 102 of the MPRSA, USEPA has responsibility for issuing permits for all materials other than dredged material. Under Section 103 of MPRSA, the Secretary of the Army has the responsibility for issuing permits for dredged material. Determinations to issue MPRSA permits for dredged material are subject to USEPA concurrence.

In the fall of 1997, the USEPA de-designated and terminated the use of the New York Bight Dredged Material Disposal Site (commonly known as the Mud Dump Site or MDS). The MDS had been designated in 1984 for the disposal of up to 100 million cubic yards of dredged material from navigation channels and other port facilities within the Port of New York and New Jersey. Simultaneous with the closure of the MDS, the site and surrounding areas that had been used historically as disposal sites for dredged materials were redesignated as the HARS under authority of Section 102(c) of MPRSA at 40 CFR Sections 228.15(d)(6) (See 62 Fed. Reg. 46142 (August 29, 1997); 62 Fed. Reg. 26267 (May 13, 1997). The HARS will be managed to reduce impacts of historic disposal activities at the site to acceptable levels in accordance with 40 CFR Section 228.11(c). The need to remediate the HARS is supported by the presence of toxic effects, dioxin bioaccumulation exceeding Category 1 levels in worm tissue (a definition of which appears in a memorandum reviewing the results of the applicant's testing), as well as TCDD/PCB contamination in area lobster stocks. Individual elements of those data do not establish that sediments within the Study Area are imminent hazards to the New York Bight Apex ecosystem, living resources, or human health. However, the collective evidence presents cause for concern, and justifies the need for remediation. Further information on the conditions in the Study Area and the surveys performed may be found in the Supplemental Environmental Impact Statement (USEPA, 1997).

The designation of the HARS identifies an area in and around the MDS which has exhibited the potential for adverse ecological impacts. The HARS will be remediated with dredged material that meets current Category 1 standards and will not cause significant undesirable effects including through bioaccumulation. This dredged material is referred to as "Material for Remediation" or "Remediation Material."

Sediment from at least 26 different private and federal projects in the Port of New York and New Jersey has been dredged and placed as Remediation Material in the ocean since closure of the Mud Dump Site and designation of the HARS in 1997. This represents a total of approximately 13,000,000 cubic yards of material. Current estimates indicate that a minimum of 40 million cubic yards of material is needed to fully remediate the HARS.

The HARS, which includes the 2.2 square nautical mile area of the MDS, is an approximately 15.7 square nautical mile area located approximately 3.5 nautical miles east of Highlands, New Jersey and 7.7 nautical miles south of Rockaway, New York (see attached drawings, sheets 5 and 6). The MDS is located approximately 5.3 nautical miles east of Highlands, New Jersey and 9.6 nautical miles south of Rockaway, New York. When determined by bathymetry (a map depicting the relative depths of water in a particular area) that capping is complete, USEPA will take any necessary rulemaking to de-designate the HARS. The HARS includes the following three areas:

Priority Remediation Area (PRA): A 9.0 square nautical mile area to be remediated with at least 1 meter of Remediation Material. The PRA encompasses the area of degraded sediments as described in greater detail in the SEIS.

Buffer Zone: An approximately 5.7 square nautical mile area (0.27 nautical mile wide band around the PRA) in which no placement of the Material for Remediation will be allowed, but may receive Material for Remediation that incidentally spreads out of the PRA.

No Discharge Zone: An approximately 1.0 square nautical mile area in which no placement or incidental spread of Material for Remediation is allowed.

To improve management and monitoring of placement activities at the HARS, electronic monitoring equipment will be on-board any barges carrying Remediation Material to the HARS. This equipment records vessel positions throughout the duration of each trip to the HARS and during remediation operations. To improve communication reliability between tugs and scows, a prescribed formal communication procedure has been put in place (copies of this procedure are available upon request).

Additional information concerning the HARS can be obtained from Mr. Douglas Pabst of the USEPA, Team Leader of the Dredged Material Management Team, at (212) 637-3797.

HARS SUITABILITY TESTING FOR PLEISTOCENE RED-BROWN CLAY:

Pleistocene red-brown clay was previously tested to determine its suitability for use as a remediation material at the HARS. Testing of the Pleistocene red-brown clay was conducted in accordance with test protocols for ocean placement established by the USEPA and USACE. Notification of those test results and a determination of suitability for HARS remediation purposes were provided in Public Notice Supplement FP63-345678CC issued on July 14, 2000. Those test results are included in this Public Notice (Tables 1-3) for informational purposes only. By a Joint Memorandum for the Record signed by both agencies on January 26, 2000, the Pleistocene red-brown clay found throughout the Newark Bay Complex was found to be suitable for HARS placement and would not require further testing.

ALTERNATIVES TO HARS PLACEMENT:

Regarding ocean placement of dredged material, the Ocean Dumping Regulations [Title 40 CFR Sections 227.16(b)] states that ". . . alternative methods of disposal are practicable when they are available at reasonable incremental cost and energy expenditures which need not be competitive with the costs of ocean dumping, taking into account the environmental impacts associated with the use of alternatives to ocean dumping . . ." USACE, New York District has evaluated the regional practicability of potential disposal alternatives in the September, 1999 Draft "Implementation Report for the Dredged Material Management Plan for the Port of New York and New Jersey." The Recommended Plan within the report addresses both the long and short term dredged material placement options in two specific timeframes, heretofore referred to as the 2010 Plan and the 2040 Plan, respectively.

The 2010 Plan relies heavily on the creation, remediation, and restoration of a variety of existing degraded or impacted habitats in the region with material that would be considered unsuitable for HARS restoration. The remaining material is treated and stabilized, as needed, and then applied to remediate degraded and potentially polluting areas such as brownfields, landfills, and abandoned strip mines. Nearly all of the options considered in the 2010 Plan have a placement cost of $29/cubic yard or higher.

Similar to the 2010 Plan, the 2040 Plan relies heavily upon the use of land remediation and decontamination methods for the management of HARS unsuitable material. As in the 2010 Plan, maximum use of all practicable alternatives to the HARS is envisioned.

Many of the dredged material management options presented in the 2010 Plan however, are not presently permitted and/or are presently under construction at this time and therefore considered unavailable for the purposes of this application. Other options are not available at reasonable incremental costs, thus leaving HARS placement as the preferred alternative.

NEWARK BAY/STATEN ISLAND KILLS COMPLEX—NATURAL CLAYS

Table 1 TOXICITY TEST RESULTS

Suspended Particulate Phase—Raw Clay

Test Species	Test Duration	LC50/EC50	LPC(a)
Menidia beryllina	96 hours	(b) >100%	>1
Mysidopsis bahia	96 hours	(b) >100%	>1
Mytilus sp. (larval survival)	48 hours	(b) >100%	>1
Mytilus sp. (larval normal develop.)	48 hours	(c) >100%	>1

(a) Limiting Permissible Concentration (LPC) is the LC50 or EC50 times 0.01.
(b) Median Lethal Concentration (LC50) resulting in 50% mortality at test termination.
(c) Median Effective Concentration (EC50) based on normal development to the D-cell, prodissoconch I stage.

Whole Sediment (10 days)—Raw Clay

Test Species	% Survival in Reference	% Survival in Test	% Difference Reference – Test	Is Difference statistically significant? (a = 0.05)
Ampelisca abdita	89%	86%	3%	No
Mysidopsis bahia	93%	95%	0%[a]	No

(a) Survival in the test material was greater than in the Reference.

Table 2 . NEWARK BAY / STATEN ISLAND KILLS COMPLEX - NATURAL CLAYS
RESULTS OF CHEMICAL ANALYSIS OF SITE WATER AND ELUTRIATE

CONSTITUENTS	SITE WATER		ELUTRIATE	
	DETECTION LIMITS	CONCENTRATION	DETECTION LIMITS	CONCENTRATION
Metals	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)	ppb (ug/L)
Cadmium		0.093		0.267
Chromium		1.42		1.11
Copper		2.45		6.42
Lead		1.46		0.259
Mercury		0.011		0.002
Nickel		1.58		1.70
Silver		0.054		0.016
Zinc		11.7		3.56
Pesticides	(ppqr) ng/L	(ppqr) ng/L	(ppqr) ng/L	(ppqr) ng/L
Aldrin	0.8	ND	0.8	ND
alpha-Chlordane		1.9		1.1
trans-Nonachlor		3.7		1.8
Dieldrin	0.3	ND		3.1
4,4'-DDT		4.6		3.1
2,4'-DDT	0.7	ND	0.7	ND
4,4'-DDD		2.5		5.0
2,4'-DDD		1.7		1.0
4,4'-DDE		4.6		6.0
2,4'-DDE	1.4	ND	1.4	ND
Total DDT		14.45		16.15
Endosulfan I		2.0		1.2
Endosulfan II	0.5	ND		1.8
Endosulfan sulfate	2.4	ND		2.7
Heptachlor		3.3		4.0
Heptachlor epoxide		11		5.3
Industrial Chemicals	(ppqr) ng/L	(ppqr) ng/L	(ppqr) ng/L	(ppqr) ng/L
PCB BZ-8		0.9	0.2	ND
PCB BZ-18		7.6	0.1	ND
PCB BZ-28	0.1	ND	0.1	ND
PCB BZ-44	0.1	ND	0.1	ND
PCB BZ-49	0.1	ND	0.1	ND
PCB BZ-52	0.1	ND	0.1	ND
PCB BZ-66		0.6	0.1	ND
PCB BZ-87	0.1	ND	0.1	ND
PCB BZ-101		0.7	0.1	ND
PCB BZ-105	0.1	ND	0.1	ND
PCB BZ-118	0.1	ND	0.1	ND
PCB BZ-128	0.1	ND	0.1	ND
PCB BZ-138	0.1	ND	0.1	ND
PCB BZ-153	0.1	ND	0.1	ND
PCB BZ-170	0.1	ND	0.1	ND
PCB BZ-180	0.1	ND	0.1	ND
PCB BZ-183	0.1	ND	0.1	ND
PCB BZ-184	0.1	ND	0.1	ND
PCB BZ-187	0.1	ND	0.1	ND
PCB BZ-195	0.2	ND	0.2	ND
PCB BZ-206	0.2	ND		ND
PCB BZ-209	0.1	ND	0.1	0.5
TOTAL PCB		21.6		ND
				3.3

ND = Not detected
Total PCB = sum of all PCB congeners * 2.
Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT.

Table 3 .. NEWARK BAY / STATEN ISLAND KILLS COMPLEX - NATURAL CLAYS
28-DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE (in wet weight concentration)

Constituents	*Macoma nasuta*				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration
Metals	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g	ug/g
Arsenic		3.5		3.36		3.26		3.2
Cadmium		0.05		0.048		0.068		0.064
Chromium		0.948		0.768		0.338		0.328
Copper		8.84		10.18		2.32		2.14
Lead		0.536		0.47		0.704		0.558
Mercury		0.16		0.088		0.13		0.138
Nickel		1.18		1.176		0.648		0.666
Silver		0.08		0.072		0.036	0.04	ND
Zinc		23.68		22.52		24		14.56
Pesticides	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g
Aldrin		1.793	0.164	ND		4.36		5
alpha-Chlordane		0.601		0.16		0.2		0.625
trans-Nonachlor		0.469		0.445	0.18	ND	0.182	ND
Dieldrin		1.234		1.314		1.814		1.278
4,4'-DDT		0.185		0.27		1.108		0.521
2,4'-DDT		1.224		0.634	0.532	ND		* 0.908
4,4'-DDD		2.82		2.52		3.88		5.92
2,4'-DDD		0.738		0.493		0.67		0.616
4,4'-DDE		3.98		4.66		1.505		0.589
2,4'-DDE	0.14	ND	0.138	ND		0.762		0.77
Total DDT		9.152		8.646		7.925		9.324
Endosulfan I		1.96		1.6		1.88		2.08
Endosulfan II		0.175		0.127	0.216	ND		0.196
Endosulfan sulfate		0.36	1.106	* ND	1.16	ND	1.16	* ND
Heptachlor	0.252	ND		0.157	0.258	ND		* 0.582
Heptachlor epoxide		1.62		1.92		1.128		1.04
Industrial Chemicals	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g
PCB BZ-08		1.542		0.976		1.235		1.563
PCB BZ-18		1.404		0.902		0.62		0.798
PCB BZ-28	0.54	ND	0.508	* ND		0.72		* 0.738
PCB BZ-44		0.738		0.498		0.486		0.397
PCB BZ-49		0.959	0.36	ND		0.974	0.36	ND
PCB BZ-52		0.134	0.47	* ND	0.486	ND		* 0.628
PCB BZ-66		1.04	1.008	ND	1.06	ND	1.012	* ND
PCB BZ-101		1		0.798		0.906		0.614
PCB BZ-105	0.394	ND	0.37	ND		0.363		0.324
PCB BZ-118	0.578	ND	0.544	* ND		0.812		0.604
PCB BZ-87		0.138	0.46	* ND	0.476	ND	0.46	* ND
PCB BZ-128	0.658	ND	0.618	* ND	0.642	ND	0.616	* ND
PCB BZ-138	0.412	ND	0.386	* ND		1.144		0.848
PCB BZ-153	0.384	ND	0.36	ND		1.94		1.634
PCB BZ-170	0.354	ND	0.334	ND	0.346	ND	0.332	ND
PCB BZ-180	0.344	ND	0.324	ND		0.382		0.244
PCB BZ-183	0.422	ND	0.376	* ND	0.412	ND	0.396	ND
PCB BZ-184	0.568	ND	0.534	* ND		1.2		0.928
PCB BZ-187	0.304	ND	0.286	ND	0.296	ND		0.239
PCB BZ-195	0.254	ND	0.238	ND		0.306		0.298
PCB BZ-206	0.254	ND	0.238	ND	0.248	ND	0.238	ND
PCB BZ-209	0.206	ND	0.194	ND	0.2	ND	0.194	ND
Total PCB		16.562		20.536		22.424		25.58

Table 3 cont:

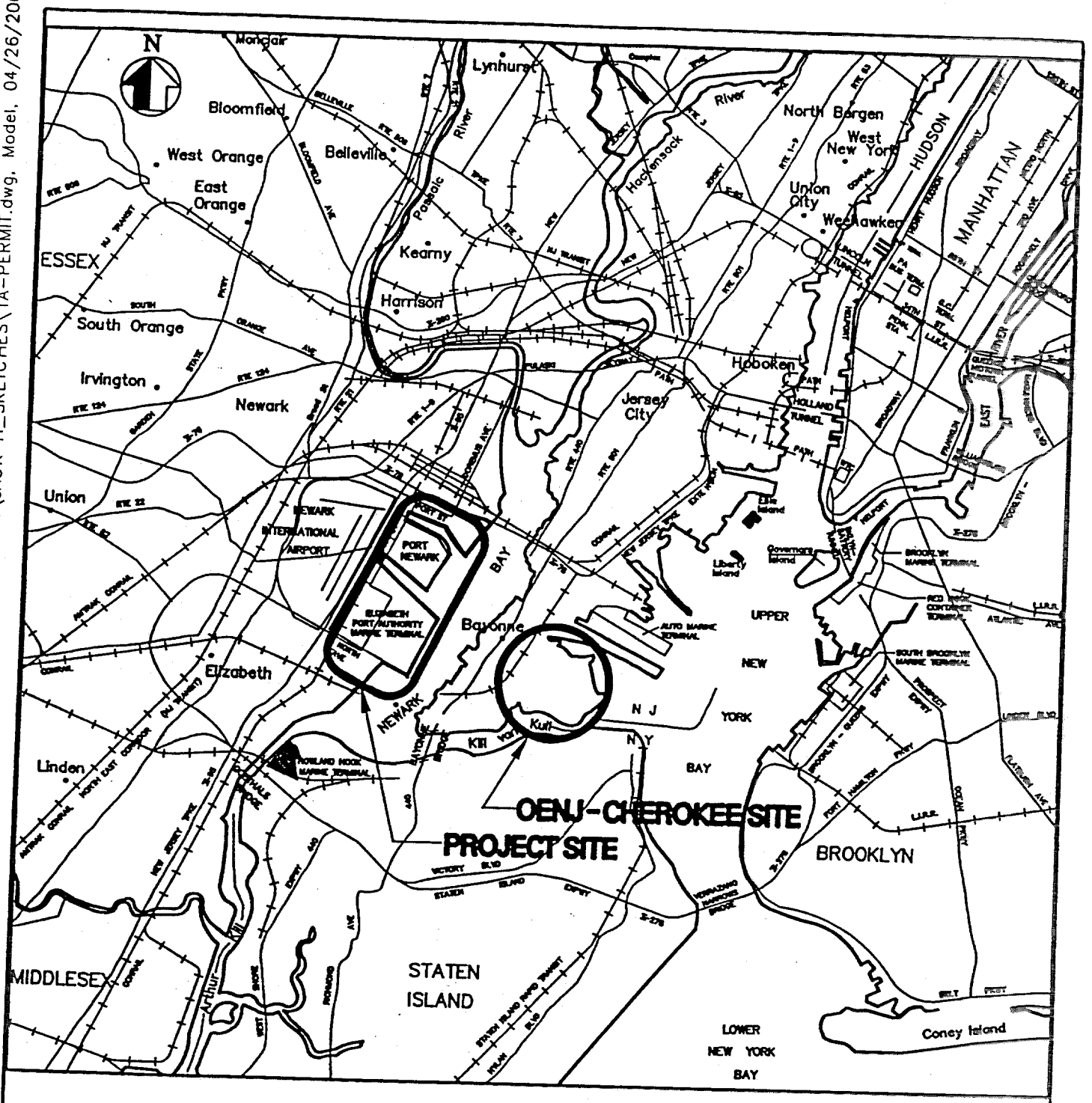
NEWARK BAY / STATEN ISLAND KILLS COMPLEX - NATURAL CLAYS
28-DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE (in wet weight concentration)

Constituents	*Macoma nasuta*				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration
Dioxins and Furans	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g	pg/g
2378-TCDD	0.115	ND	0.105	ND		0.237		0.177
12378-PeCDD	0.172	ND	0.134	ND		0.431		0.252
123478-HxCDD		0.197	0.177	ND		0.296		0.172
123678-HxCDD		3.250		1.632		3.230		1.580
123789-HxCDD		1.410		0.665		1.423		0.661
1234678-HpCDD		16.250		7.424		10.308		5.255
OCDD		12.441		7.929		11.220		6.714
2378-TCDF	0.239	ND	0.145	ND		1.001		0.691
12378-PeCDF		0.650		0.317		1.130		0.442
23478-PeCDF	0.874	ND		0.336		0.713		0.259
123478-HxCDF		0.410		0.282		0.631	0.347	ND
123678-HxCDF		0.689		0.348		0.919		0.384
123789-HxCDF	0.668	ND	0.310	ND	0.155	ND	0.407	* ND
234678-HxCDF		0.900		0.476		1.145		0.279
1234678-HpCDF		4.140		2.194		2.473		1.515
1234789-HpCDF		0.276	0.273	ND	0.347	ND	0.446	ND
OCDF		2.022		2.355		0.809		0.731
PAHs	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g	ng/g
Acenaphthene	56.4	ND	56.2	* ND	56.5	ND	56.4	* ND
Acenaphthylene	1.98	ND	2.0	ND	2.0	ND	2.0	ND
Anthracene	3.56	ND	3.6	ND	3.55	ND	3.58	ND
Fluorene	1.7	ND	1.7	ND	1.7	ND	1.7	ND
Naphthalene		0.78	1.3	ND	1.3	ND	1.3	ND
Phenanthrene	1.6	ND	1.6	ND	1.6	ND	1.6	ND
Benzo[a]anthracene		0.8	1.3	ND	1.3	ND	1.3	ND
Benzo[a]pyrene	1.4	ND	1.4	ND	1.4	ND	1.4	ND
Benzo[g,h,i]perylene	1.4	ND	1.4	ND	1.4	ND	1.4	ND
Benzo[b]fluoranthene	1.2	ND	1.2	ND	1.2	ND	1.2	ND
Benzo[k]fluoranthene		2.44	2	ND	2	ND	2	ND
Chrysene	1.6	ND	1.6	ND	1.6	ND	1.6	ND
Dibenz[a,h]anthracene	3.16	ND	3.2	ND	3.15	ND	3.18	ND
Fluoranthene	0.822	ND	0.822	ND	0.812	ND	0.822	ND
Indeno[1,2,3-cd]pyrene		2.12		1.68		1.263		1.1
Pyrene		19.64		* 73.281		11.72		* 70.931
Total PAHs								

Concentrations shown are the mean of 5 replicate analyses in wet weight with the following exceptions:
PAH concentrations for *Nereis virens* Reference tissue are the mean of 4 replicate analyses;
1,4 dichlorobenzene concentration for *Nereis virens* Test tissue is the mean of 4 replicate analyses due to limited tissue volume;
1,4 dichlorobenzene concentration for *Nereis virens* Reference tissue is the result of one set of analyses due to limited tissue volume.
* Significantly higher than reference at 95% confidence.
ND = Not Detected
Total PAHs = sum of all PAHs
Total PCB = sum of congeners reported * 2
Total DDT = sum of 2,4'- and 4,4'-DDD, DDE, and DDT
Means and statistical comparisons were determined using conservative estimates of concentrations of constituents that were at concentrations below the detection limit.

Table 3 cont: NEWARK BAY / STATEN ISLAND KILLS COMPLEX - NATURAL CLAYS
28-DAY BIOACCUMULATION TEST RESULTS: CHEMICAL ANALYSIS OF TISSUE (in wet weight concentration)

Constituents	*Macoma nasuta*				*Nereis virens*			
	REFERENCE		TEST		REFERENCE		TEST	
	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration	Detection Limits	Mean Concentration
1,4-Dichlorobenzene	0.2	ND	0.2	ND	0.2	ND	0.2	ND



VICINITY MAP

N.T.S.

THE PORT AUTHORITY OF NY & NJ
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VICINITY MAP

DATE: 4/24/02 DWG. NO. 1

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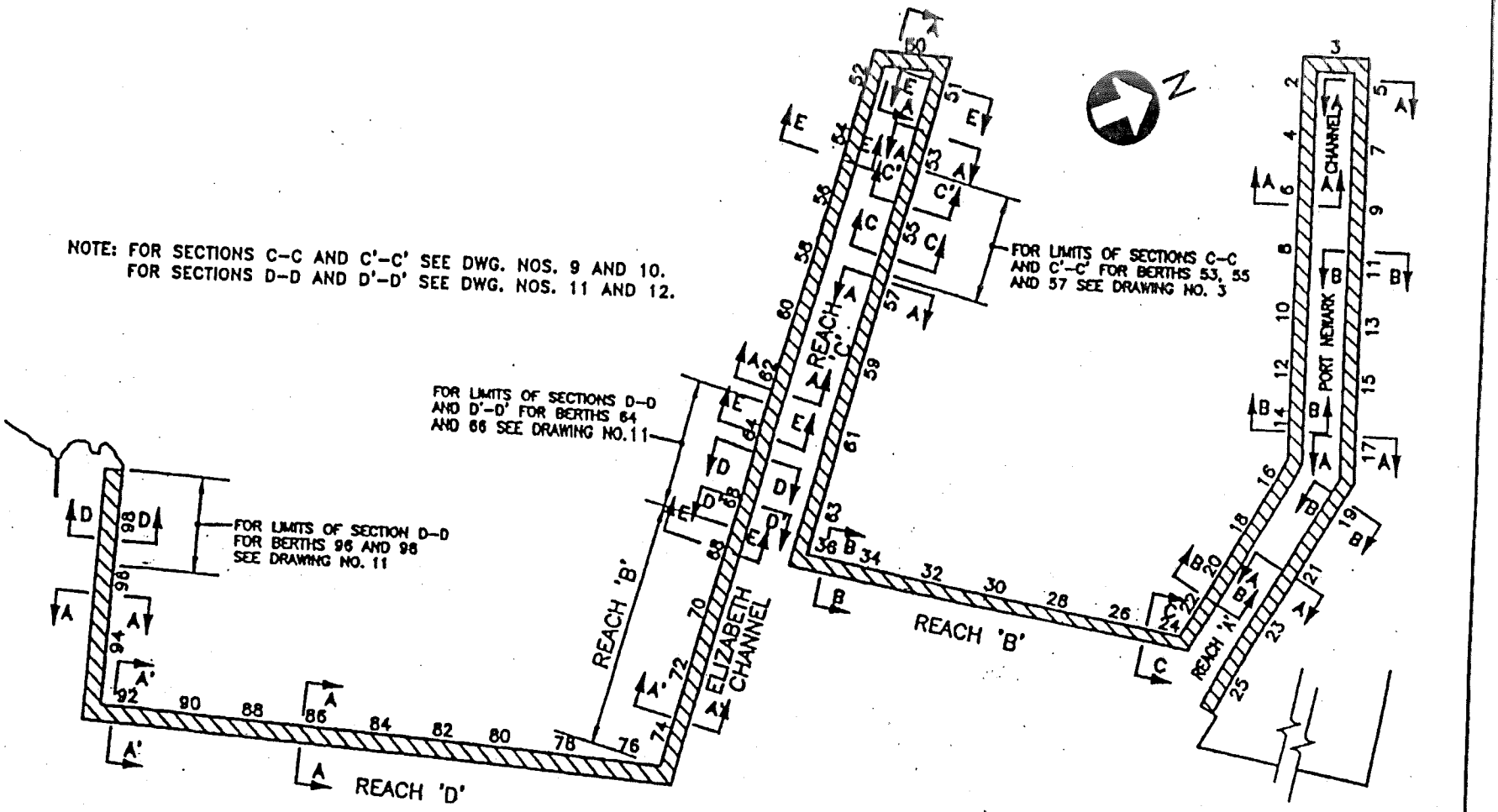

LOCATION PLAN

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN PLAN VIEW.

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LOCATION MAP

DATE: 4/24/02 DWG. NO. 2

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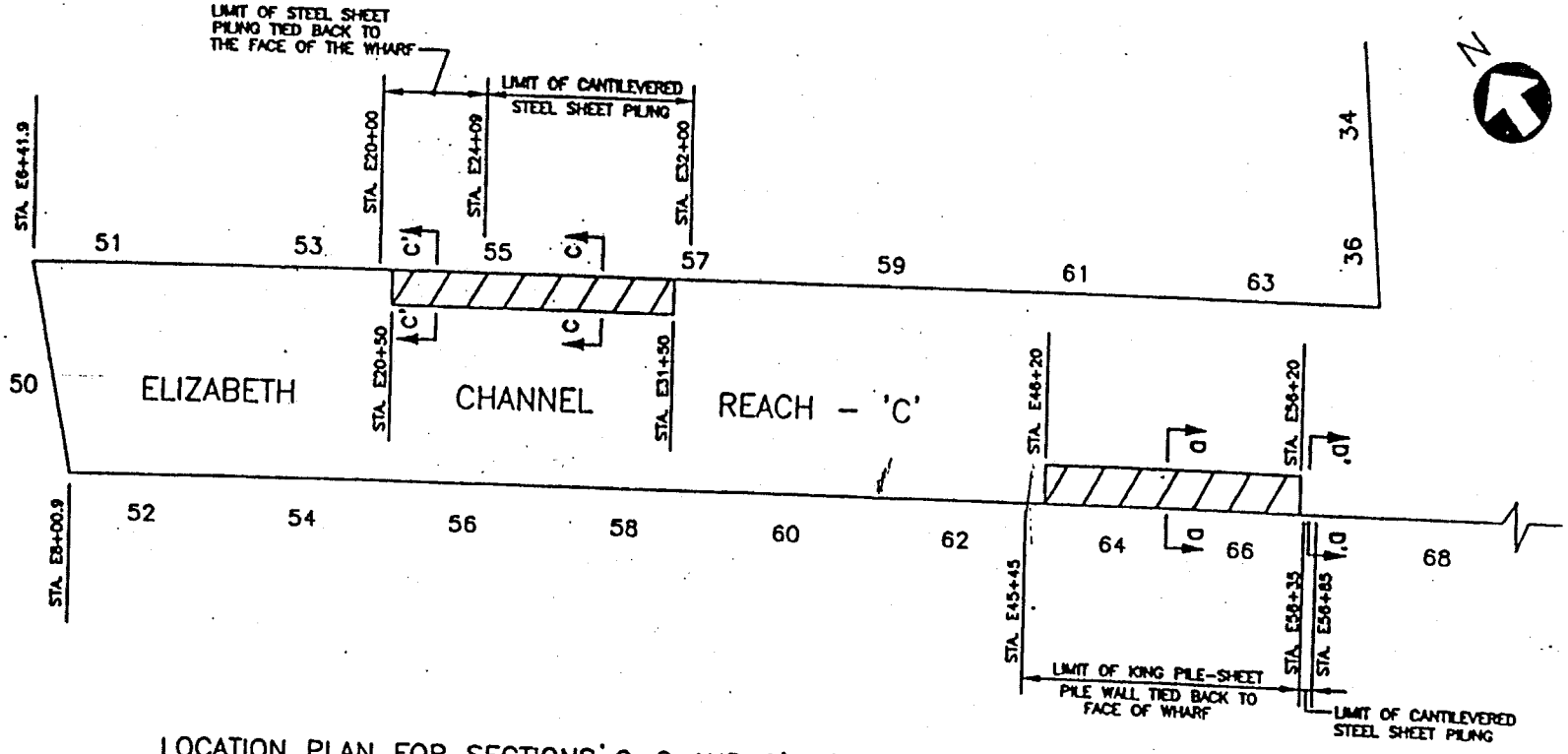

LOCATION PLAN FOR SECTIONS C–C AND C'–C' AT BERTHS 53, 55 & 57 AND SECTIONS D–D AND D'–D' AT BERTHS 64 AND 66

N.T.S.

NOTE: FOR SECTIONS D–D AND D'–D' SEE DRAWING NOS. 11 AND 12.

LEGEND:

INDICATES AREAS TO BE DREDGED IN PLAN VIEW.

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LOCATION PLAN

DATE: 4/24/02 DWG. NO. 3

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DIMENSIONS FOR SECTION A–A IN FEET			
BERTH NO.	A	B	C
25	20	143	40
23	20	143	40
17	12	143	35
9	15	143	35
7	15	143	35
5	15	143	35
3	15	143	35
2	15	143	35
4	15	143	35
6	20	143	35
63	10	150	50
61	10	150	50
59	10	150	50
57①	10	150	50
55	SEE DRAWING NO. 3		
53①	15	150	35
50	15	150	35
96	5	110	45
98	5	110	45

① SECTION A–A APPLIES TO BERTHS 53 AND 57 EXCEPT WITHIN THE LIMITS OF SECTIONS C–C AND C'–C' AS SHOWN ON DRAWING NO. 3.

DIMENSIONS FOR SECTION A'–A' IN FEET			
BERTH NO.	A	B	C
68	5	150	50
70	5	150	50
72	5	150	50
74	5	150	50
82	5	110	45
84	5	110	45
86	5	110	45
88	5	110	45
90	5	110	45
92	5	110	45
94	5	110	45

VERTICAL CONTROL

ELEVATION 295.0 IS 2.35 FEET BELOW MEAN SEA LEVEL AT SANDY HOOK, N.J. AS ESTABLISHED BY NGVD 29.

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TABLE OF DIMENSIONS

DATE: 4/24/02 DWG. NO. 4

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DIMENSIONS FOR SECTION B–B IN FEET					
BERTH NO.	A	B	C	D	E
21	15	25	143	35	40
19	10	25	143	34	35
15	15	30	143	32	35
13	15	30	143	32	35
11	15	30	143	32	35
8	20	40	143	35	40
10	20	40	143	35	40
12	20	40	143	35	40
14	20	40	143	35	40
16	20	35	143	35	38
18	20	35	143	35	38
20	20	35	143	35	38
22	20	35	143	35	38
26	20	50	120	35	40
28	20	50	120	35	40
30	20	50	120	35	40
32	20	50	120	35	40
34	15	50	120	36	40
36	15	50	120	36	40

DIMENSIONS FOR SECTION E–E IN FEET							
BERTH NO.	A	B	C	D	E	F	G
24	20	35	50	120	35	38	40
51	15	35	50	150	37	38	40
52	15	35	50	150	37	38	40
54	15	35	50	150	37	38	40
56	15	35	50	150	37	38	40
58	15	35	50	150	37	38	40
60	15	35	50	150	37	38	40
62	15	35	50	150	37	38	40
64 ②	15	35	50	150	37	38	40
66 ②	15	35	50	150	37	38	40
76	15	35	50	110	37	38	40
78	15	35	50	110	37	38	40
80	15	35	50	110	37	38	40

② SECTION B–B APPLIES TO BERTHS 64 AND 66 EXCEPT WITHIN THE LIMITS OF SECTION D–D AS SHOWN ON DRAWING NO. 3.

VERTICAL CONTROL

ELEVATION 295.0 IS 2.35 FEET BELOW MEAN SEA LEVEL AT SANDY HOOK, N.J. AS ESTABLISHED BY NGVD 29.

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PORT NEWARK AND ELIZABETH PORT AUTHORITY MARINE TERMINALS

TABLE OF DIMENSIONS

DATE: 4/24/02

DWG. NO. 5

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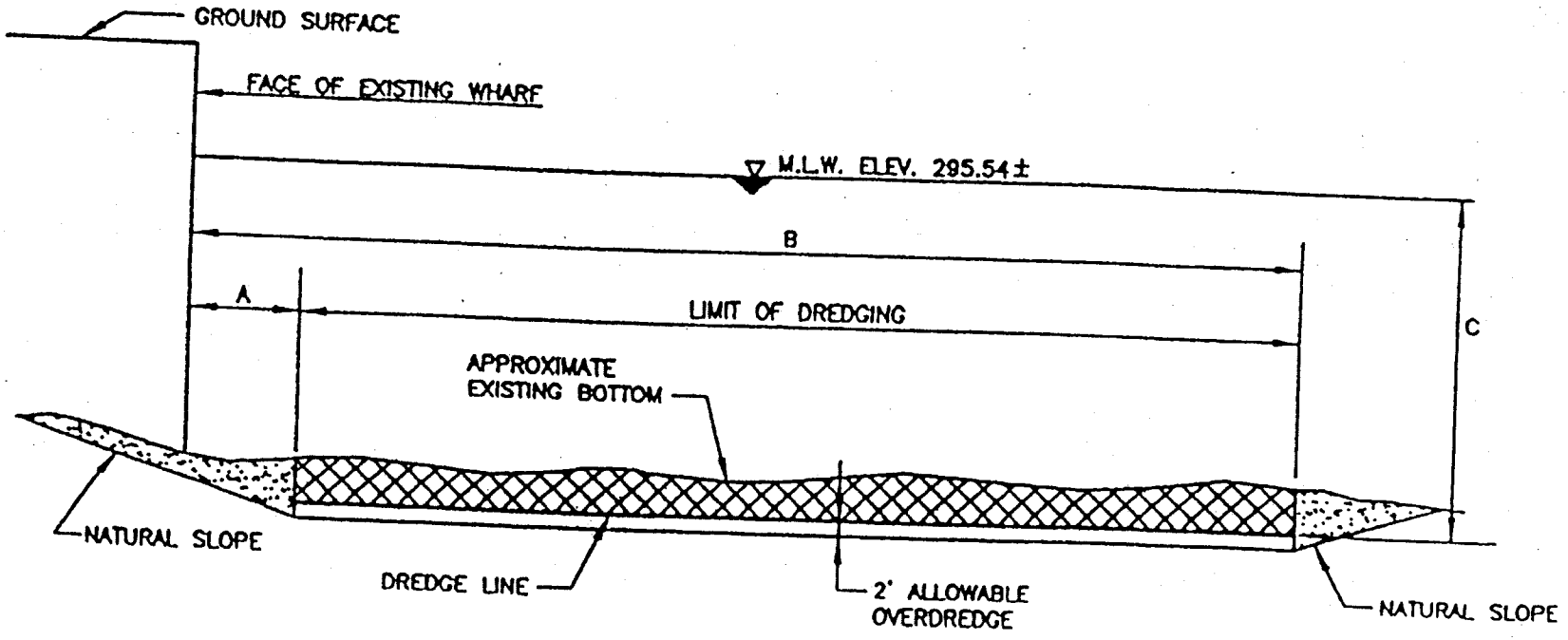

SECTION A–A

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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SECTION A–A

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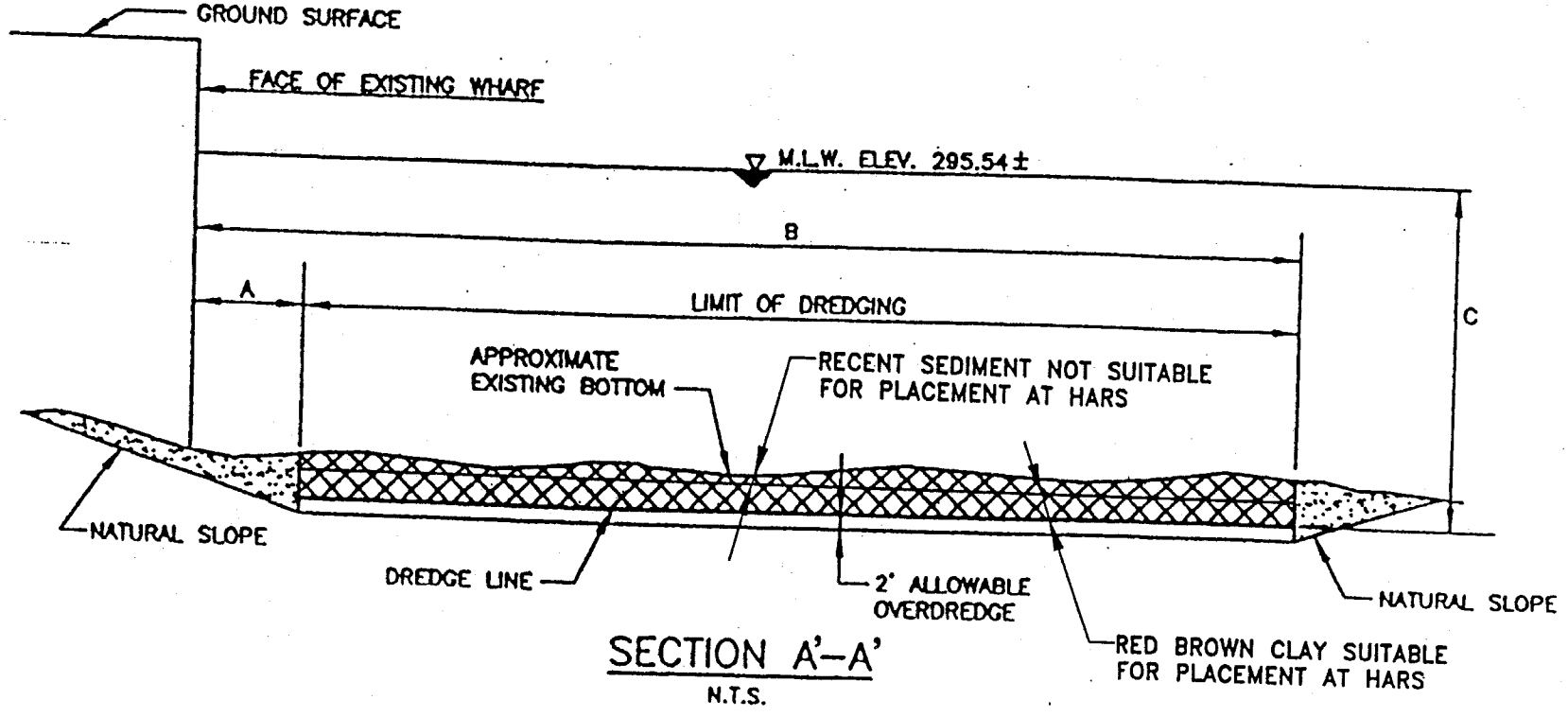

SECTION A'–A'

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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SECTION A–A

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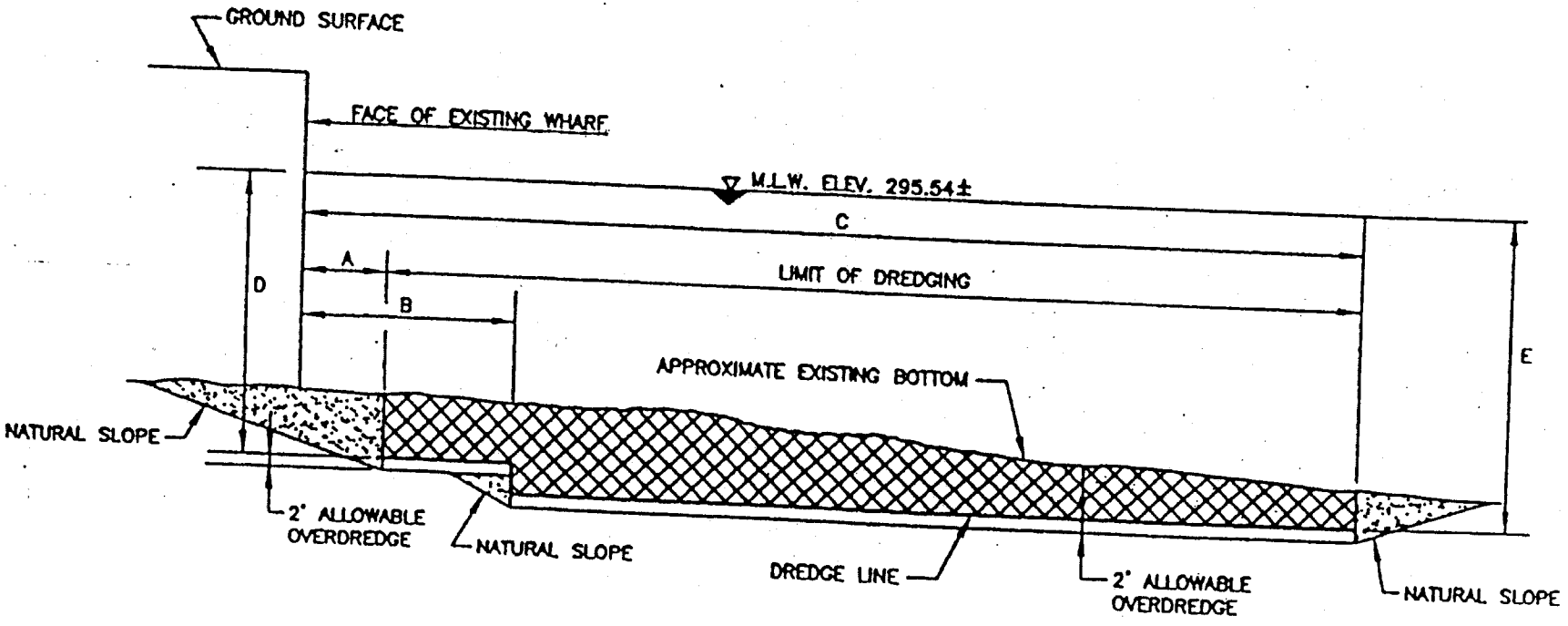

SECTION B–B

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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SECTION B–B

DATE: 4/24/02 DWG. NO. 8

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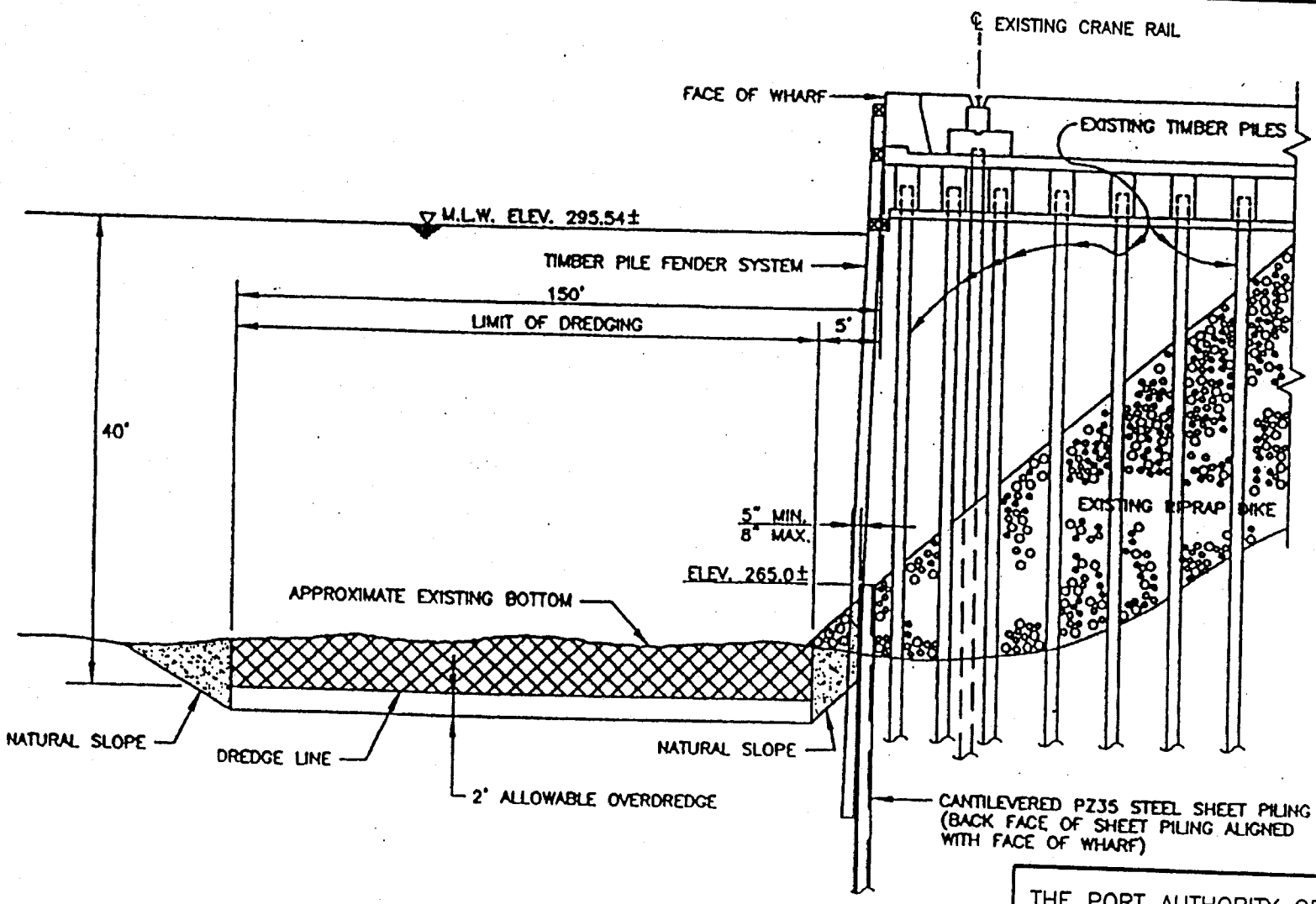

SECTION C-C

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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SECTION C-C

DATE: 4/24/02

DWG. NO. 9

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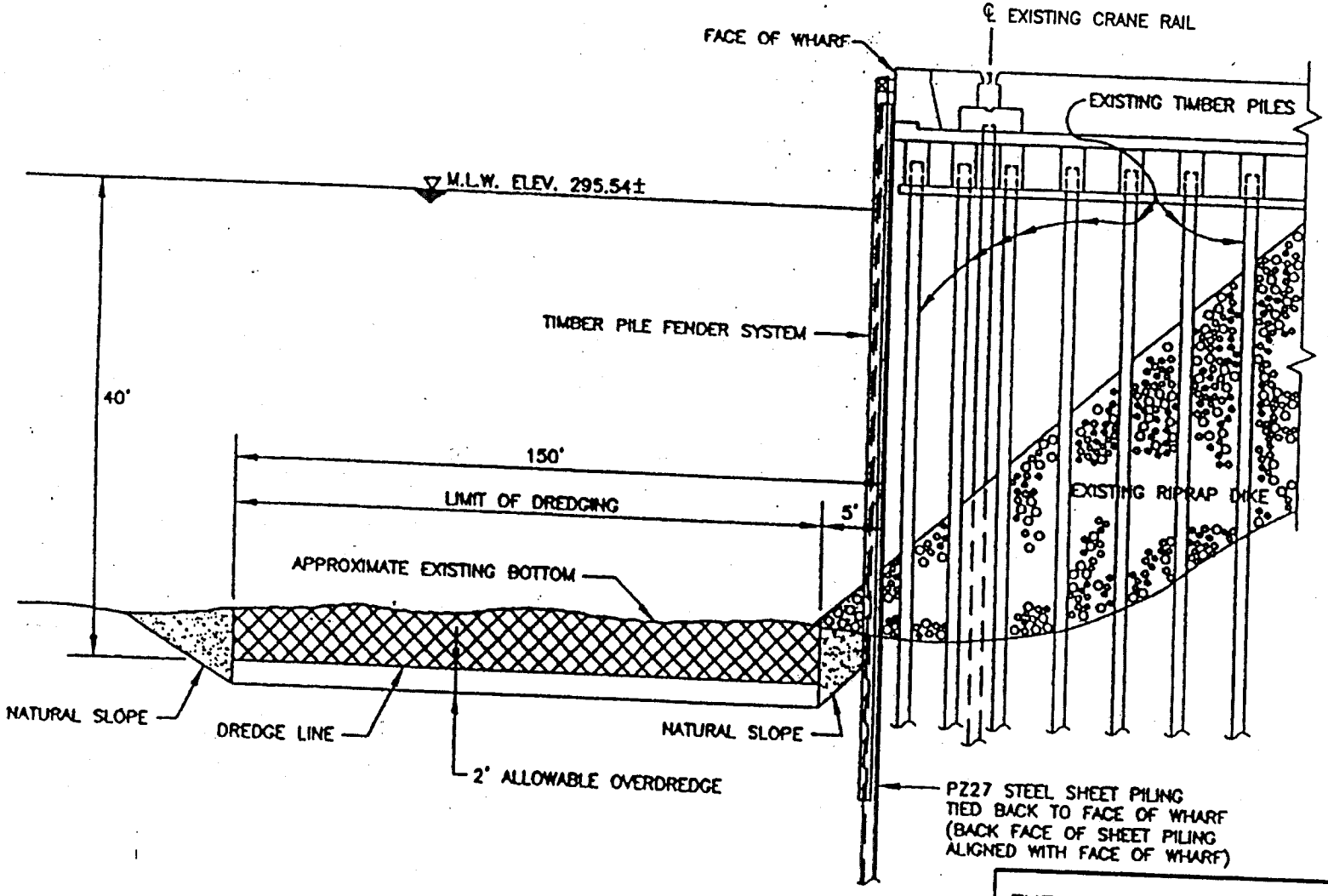

SECTION C'–C'

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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SECTION C'–C'

DATE: 4/24/02 DWG. NO. 10

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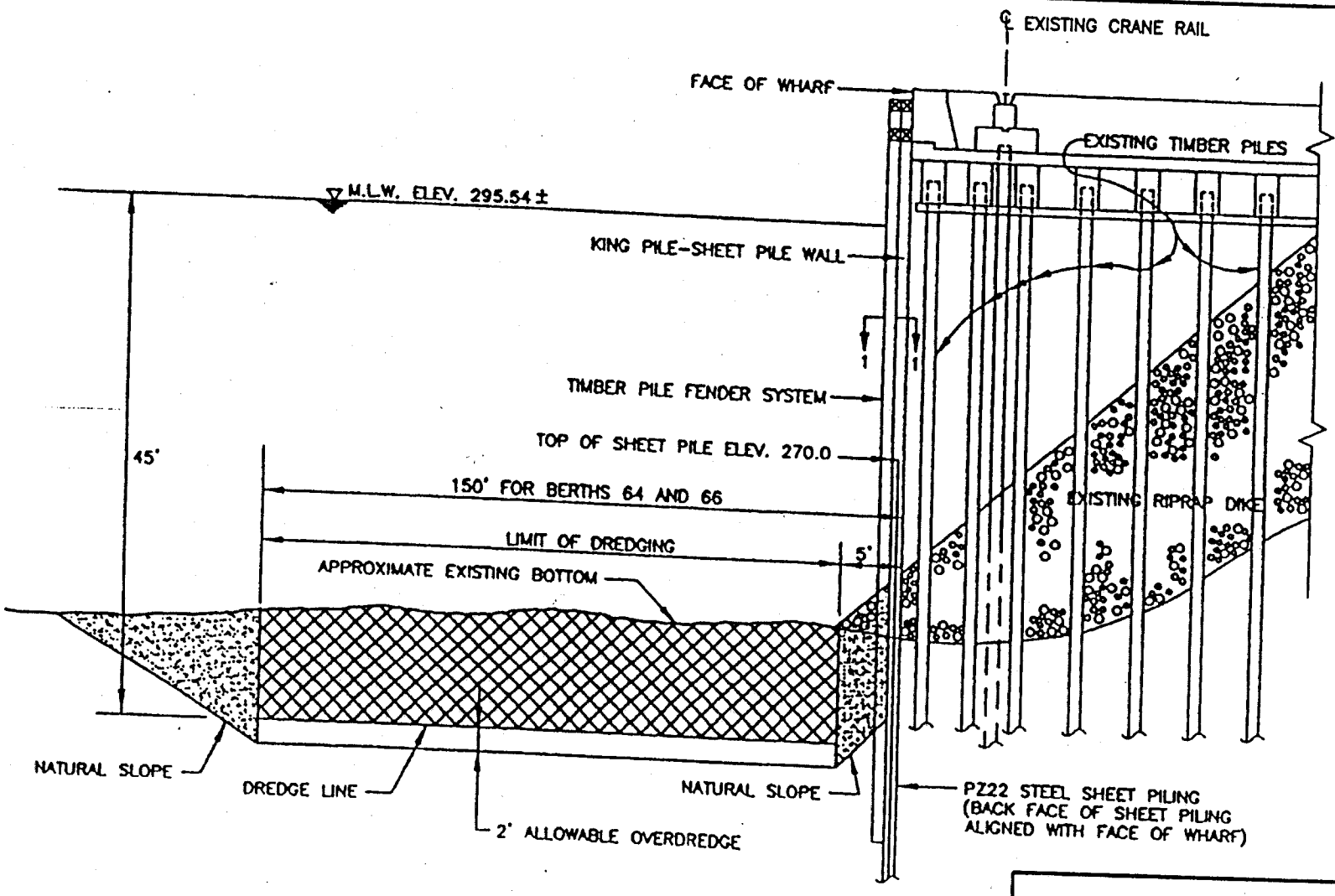

SECTION D-D FOR BERTHS 64, 66

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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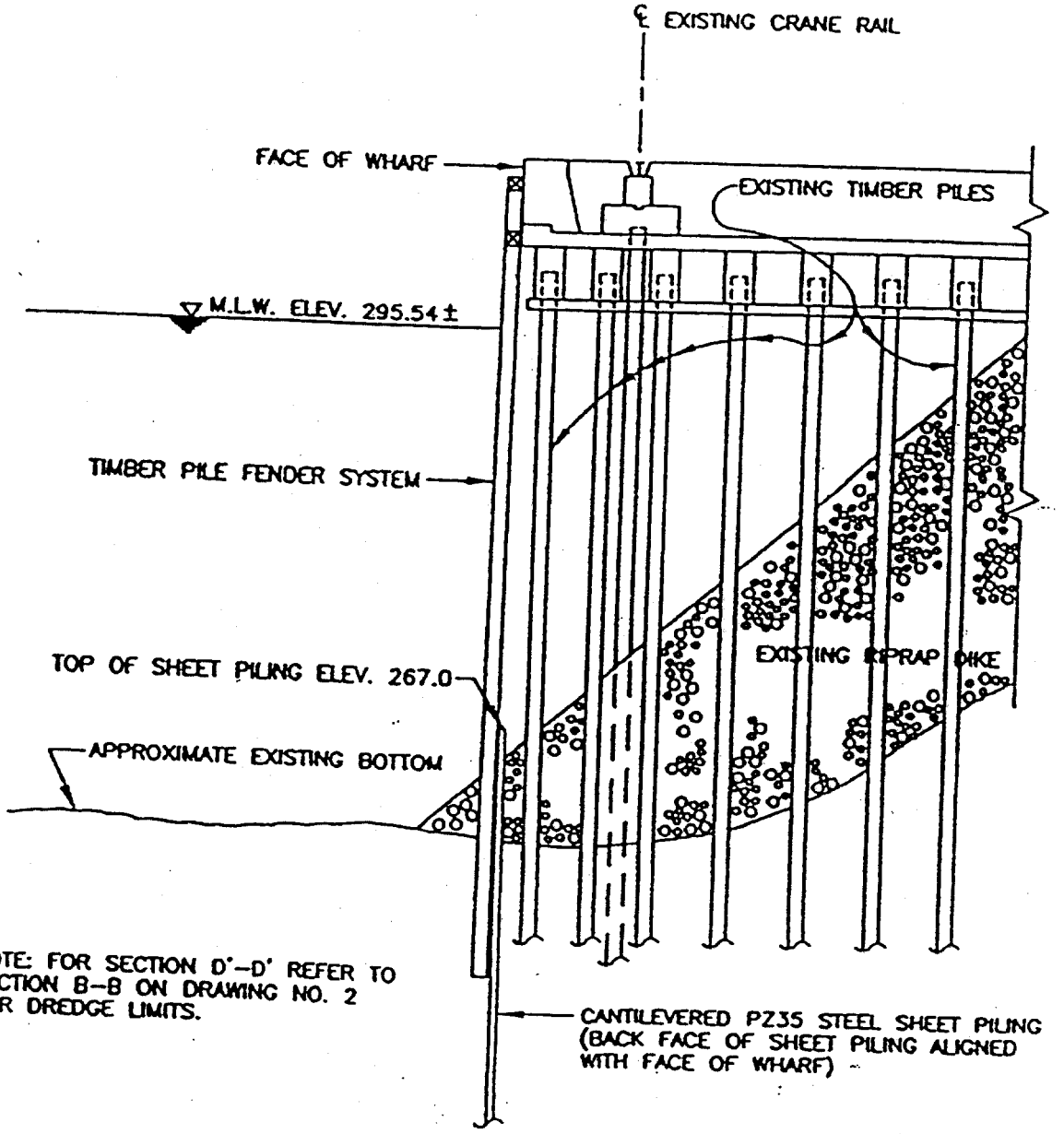
SECTION D-D

DATE: 4/24/02 DWG. NO. 11



SECTION D'-D' FOR BERTH 66 ONLY

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SECTION D'-D'

DATE: 4/24/02 DWG. NO. 12

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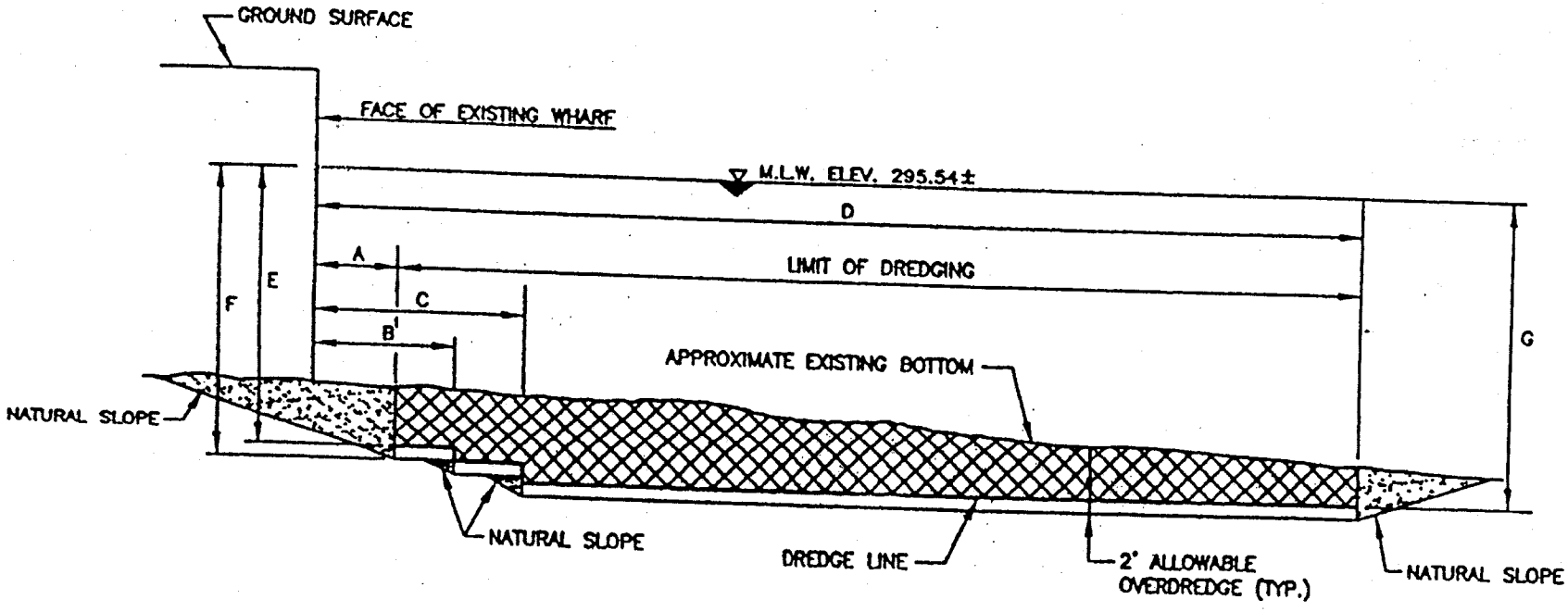

SECTION E–E

N.T.S.

LEGEND:

INDICATES AREAS TO BE DREDGED IN SECTIONAL VIEW.

INDICATES MATERIAL SLOUGHING IN FROM SIDE SLOPES IN SECTIONAL VIEW. NO DREDGING ALLOWED IN THIS ZONE.

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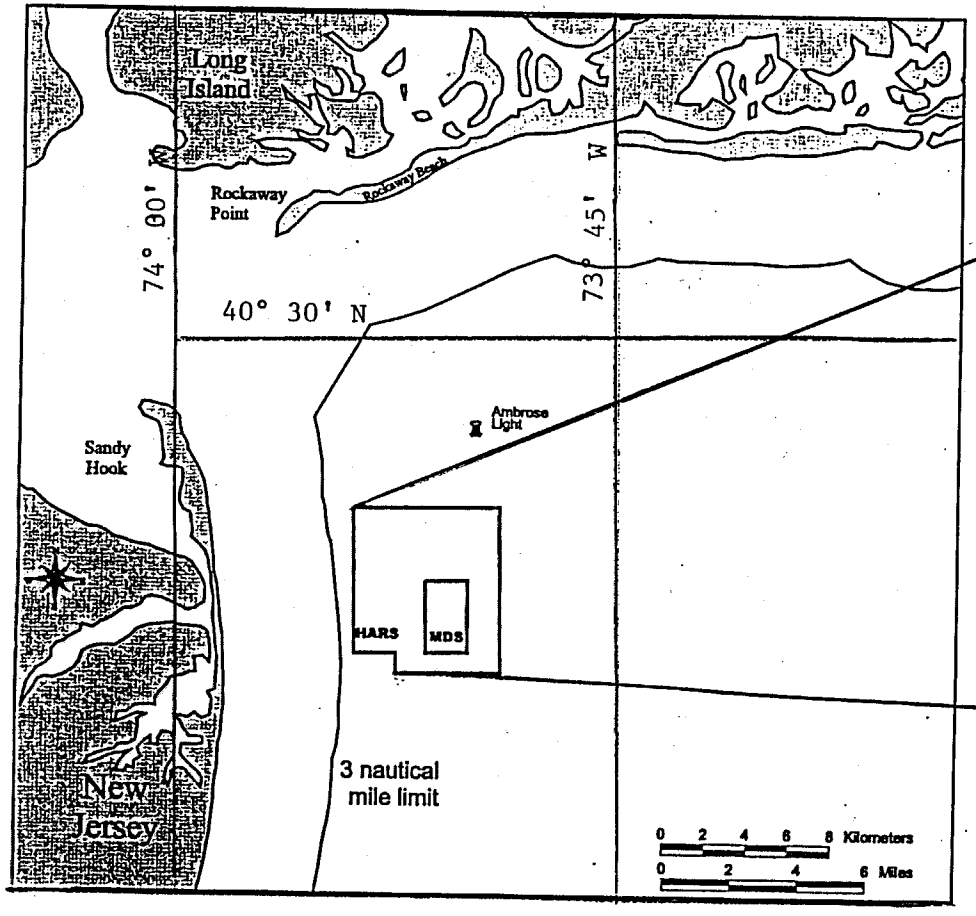
SECTION E–E

DATE: 4/24/02 DWG. NO. 13

HISTORIC AREA REMEDIATION SITE LOCATION MAP



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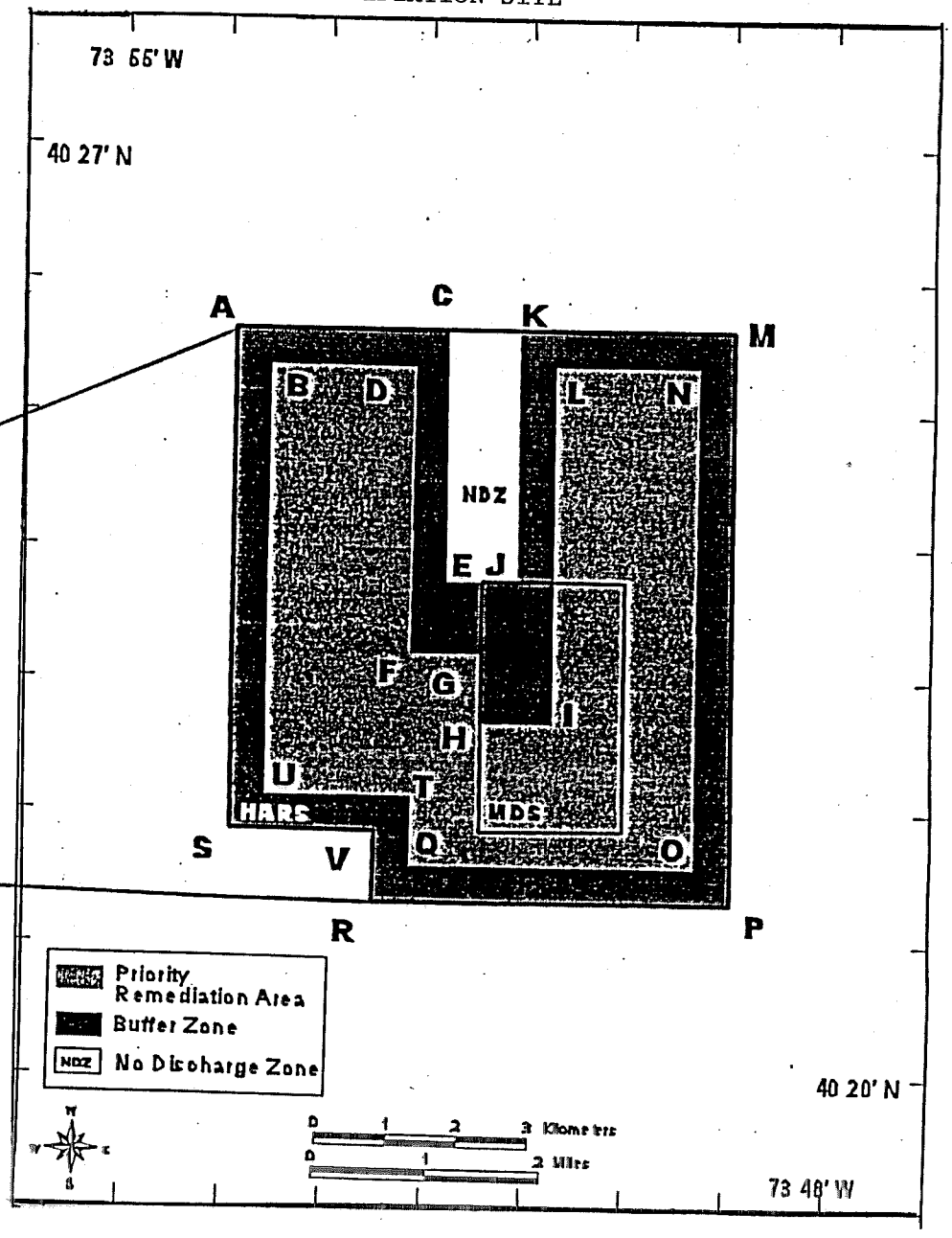
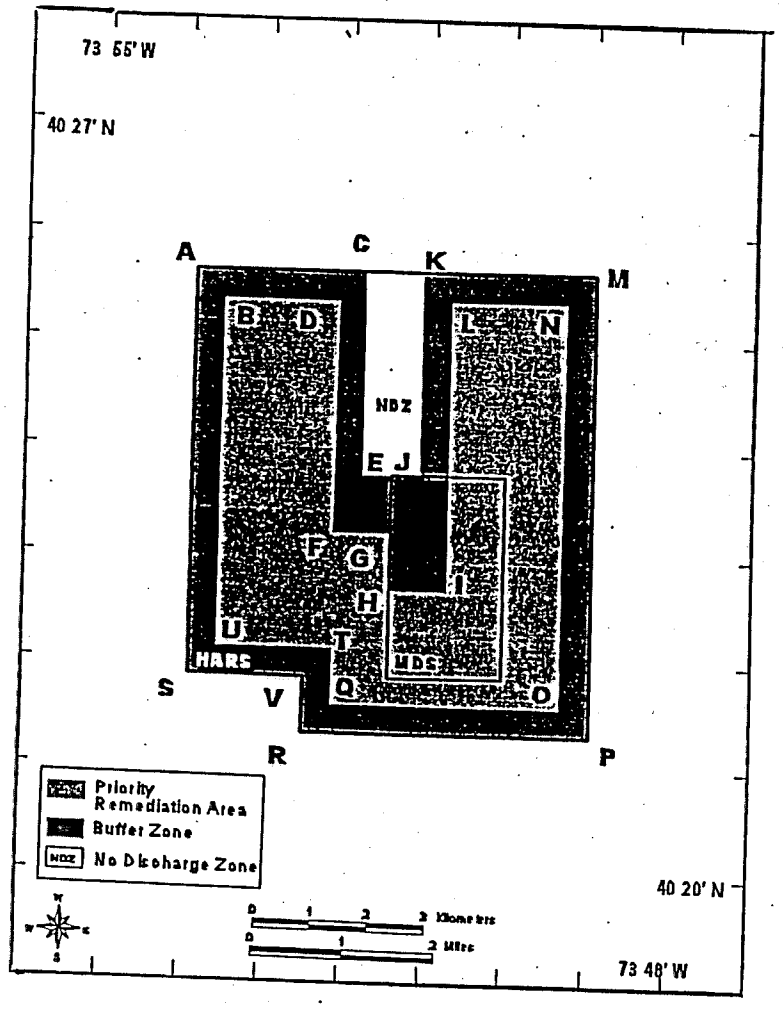
LOCATION OF PRIMARY REMEDIATION AREA WITHIN THE HISTORIC AREA REMEDIATION SITE



B



Priority Remediation Area (PRA): 9.0 square nautical mile area to be remediated with at least one meter of Remediation Material, bounded by the following coordinates:

Point	Latitude DMS *	Longitude DMS	Latitude DDM **	Longitude DDM
B	40° 25' 23" N	73° 53' 34" W	40° 25.38' N	73° 53.57' W
D	40° 25' 22" N	73° 52' 08" W	40° 25.37' N	73° 52.13' W
F	40° 23' 13" N	73° 52' 09" W	40° 23.22' N	73° 52.15' W
G	40° 23' 13" N	73° 51' 28" W	40° 23.22' N	73° 51.47' W
H	40° 22' 41" N	73° 51' 28" W	40° 22.68' N	73° 51.47' W
I	40° 22' 41" N	73° 50' 43" W	40° 22.68' N	73° 50.72' W
L	40° 25' 22" N	73° 50' 44" W	40° 25.37' N	73° 50.73' W
N	40° 25' 22" N	73° 49' 19" W	40° 25.37' N	73° 49.32' W

* -- DMS = Degrees, Minutes, Seconds

** -- DDS = Degrees, Decimal Minutes